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Medical Research for M.S. and Cannabis.

Slowing MS progression with cannabinoids

A $1.5 million National Institutes of Health grant will help Temple University researchers study more effective ways to treat multiple sclerosis (MS).

The research uses synthetic (man-made) cannabinoids based on chemicals obtained from the marijuana plant.

Sierra Blankenship, who suffers from MS and lives in Lima, Ohio, says this is a new angle she's never heard of before. *"I mean, we've all heard of Montel Williams and others using medical marijuana for pain, but I never thought there was more to it than that."*

It is all part of calming the immune system, and since MS causes such a high level of immune system in a person that it attacks the central nervous system, something is needed to calm it down. Current medications such as steroids and chemotherapy turn off the immune system and it leaves the patients vulnerable to infections and germs.

"A marijuana plant has about 96 different chemicals in it and you might immediately think about those that cause psychological effects," says researcher Ron F. Tuma, Stewart professor of physiology and associate professor of neurosurgery. *"Instead, we're focusing on a chemical that doesn't cause psychoactive effects but does affect the immune system."*

The key link between the marijuana plant and the human body is they both produce cannabinoids which act with specific receptors in the immune system that regulate the immune system and Tuma and Ganea believe they can make a chemical compound, O-1996, to act as a cannabinoid and control the activation of the proper immune cells.

"MS is a terrible disease and the more rapidly it progresses, the sooner it disables its victims," says co-researcher Doina Ganea, Earle H. Spaulding chair and professor of microbiology and immunology. *"So, if you can slow that down for 10 or 20 years, you can make a significant impact on the patients' lives."*

The O-1996 was made by scientists at the Medical College of Virginia and the company Organix and Tuma and Ganea have already performed animal studies with it. Studies show it affected cannabinoid receptors that are seen primarily on immune cells and it was published in the *Journal Neuroimmune Pharmacology.*

They also had the help of fellow researchers in the Center for Substance Abuse and Research (CSAR), including Mary Abood, Ph.D., and Martin Adler, Ph.D., who had already been studying cannabinoids. *"This is a totally new approach to treating this disease,"* says Dr. Adler, director emeritus and senior advisor for CSAR and Laura H.

Carnell professor of pharmacology research. *"These cannabinoids hold enormous potential, and that's encouraging since we're limited in options when it comes to preventing or reversing MS."*

On a side note, Dr. Adler has family members that suffer from MS and has this personal knowledge armed with being a neuropharmacologist to help aid a win in this battle.

It is currently unknown if others are studying this angle marijuana plays in MS and all the researchers are excited about this study. They have a four-year NIH grant that begins July 1, the study was funded by a $50,000 seed grant from Temple's Office of the Provost and a $50,000 bridge grant from the Office for Research and Strategic Initiatives.

Ganea is enthusiastic about this, he says, *"I know of no other universities in this country that have several principal investigators coming from different directions interested in studying cannabinoids. That different expertise is our strength."*